

WHAT IS CLAIMED IS:

1. A sputtering system comprising:
  - a target material;
  - 5 a part coated with a spray material comprising the same material as the target material.
2. A sputtering system comprising:
  - a target material comprising a semiconductor material;
  - 10 a part coated with a spray material comprising the semiconductor material.
3. A sputtering system comprising:
  - a target material comprising a semiconductor material;
  - 15 a part coated with a spray material comprising one of oxide of the semiconductor material and nitride of the semiconductor material.
4. A sputtering system comprising:
  - a target material;
  - 20 a part coated with a spray material comprising the same material as the target material,
  - wherein a thin film formed on a substrate provided to face the target material comprises one of the same material as the spray material, oxide of the spray material, and nitride of the spray material.
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5. A sputtering system comprising:
  - a target material comprising a semiconductor material;
  - a part coated with a spray material comprising the semiconductor material;
  - 30 wherein a thin film formed on a substrate provided to face the target

material comprises one of the same material as the semiconductor material, oxide of the semiconductor material, and nitride of the semiconductor material.

6. A sputtering system comprising:

- 5                   a target material comprising a semiconductor material;  
                  a part coated with a spray material comprising one of oxide of the semiconductor material and nitride of the semiconductor material;  
                  wherein a thin film formed on a substrate provided to face the target material comprises one of oxide of the semiconductor material and nitride of the semiconductor material.
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7. A sputtering system according to claim 1, wherein the part is one of the group consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.

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8. A sputtering system according to claim 2, wherein the part is one of the group consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.

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9. A sputtering system according to claim 3, wherein the part is one of the group consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.

10. A sputtering system according to claim 4, wherein the part is one of the group consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.

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11. A sputtering system according to claim 5, wherein the part is one of the group consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.

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12. A sputtering system according to claim 6, wherein the part is one of the group consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.

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13. A sputtering system according to claim 2, wherein the semiconductor material is silicon.

14. A sputtering system according to claim 3, wherein the semiconductor material is silicon.

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15. A sputtering system according to claim 5, wherein the semiconductor material is silicon.

16. A sputtering system according to claim 6, wherein the semiconductor material is silicon.

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17. A method for manufacturing a thin film comprising one of a target material, oxide of the target material, and nitride of the target material, comprising:

20 preparing a sputtering system comprising the target material and a part coated with a spray material comprising the same material as the target material; and applying high-frequency power in an atmosphere including rare gas.

18. A method for manufacturing a thin film comprising one of a semiconductor material, oxide of the semiconductor material, and nitride of the semiconductor material, comprising:

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preparing a sputtering system comprising a target material comprising the semiconductor material and a part coated with a spray material comprising the same material as the semiconductor material; and

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applying high-frequency power in an atmosphere including rare gas.

19. A method for manufacturing a thin film comprising one oxide of a semiconductor material and nitride of the semiconductor material, comprising:

5 preparing a sputtering system comprising a target material comprising the semiconductor material and a part coated with a spray material comprising one of oxide of the semiconductor material and nitride of the semiconductor material; and  
applying high-frequency power in an atmosphere including rare gas.

20. A method according to claim 17, wherein the part is one of the group  
10 consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.

21. A method according to claim 18, wherein the part is one of the group  
15 consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.

22. A method according to claim 19, wherein the part is one of the group  
consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.  
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23. A method according to claim 18, wherein the semiconductor material is silicon.

24. A method according to claim 19, wherein the semiconductor material is  
25 silicon.

25. A method for manufacturing a thin film comprising one of a target material, oxide of the target material, and nitride of the target material, comprising:  
preparing a sputtering system comprising the target material and a part  
30 coated with a material comprising the same material as the target material; and

applying high-frequency power in an atmosphere including rare gas.

26. A method according to claim 25, wherein the part is one of the group consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.

27. A method according to claim 25, wherein the target material is silicon.

28. A method for manufacturing a semiconductor device comprising a thin film comprising one of a target material, oxide of the target material, and nitride of the target material, comprising:

forming a semiconductor film over a substrate;

forming an insulating film on the semiconductor film;

forming an electrode over the insulating film;

preparing a sputtering system comprising the target material and a part coated with a material comprising the same material as the target material; and

applying high-frequency power in an atmosphere including rare gas to form the thin film over the electrode.

29. A method according to claim 28, wherein the part is one of the group consisting of a target shield, a contamination plate, a backing plate, a current plate, a substrate holder, a gas introducing tube, and an inner wall of a chamber.

30. A method according to claim 28, wherein the target material is silicon.